

2. (Previously amended) An electrical coil as claimed in claim 1 wherein at least a portion of said conductor is a hollow cylinder adapted for guiding a flowing cooling medium therein.

3. (Twice amended) An electrical coil as claimed in claim 1 wherein said at least one section of said electrical conductor is a first section and wherein said cooling device component cools at least one second section of said electrical conductor.

4. (Twice amended) An electrical coil as claimed in claim 3 wherein said at least one second section of said electrical conductor proceeds in an edge region of a spatial extent of said coil.

5. (Previously amended) An electrical coil as claimed in claim 3 wherein said coil has a spatial extent forming a hollow cylinder, and wherein said at least one second section of said electrical conductor proceeds in a region of a front side of said hollow cylinder.

6. (Previously amended) An electrical coil as claimed in claim 1 wherein said heat insulator surrounds said electrical conductor.

7. (Original) An electrical coil as claimed in claim 1 wherein said heat insulator has a lower thermal conductivity than said carrier structure.

8. (Original) An electrical coil as claimed in claim 7 wherein said thermal conductivity of said heat insulator is lower by a factor between 1 and 3 than the thermal conductivity of the carrier structure.

Cancel claim 9.

10. (Previously amended) An electrical coil as claimed in claim 1 wherein said carrier structure includes elements for reducing a non-homogeneity of a magnetic field in which said carrier structure and said electrical conductor are disposed.

11. (Original) An electrical coil as claimed in claim 1 wherein said heat insulator comprises fibrous material.

12. (Original) An electrical coil as claimed in claim 1 wherein said heat insulator comprises high-resistance foam material.

13. (Original) An electrical coil as claimed in claim 1 wherein said heat insulator is composed of material selected from the group consisting of glass, ceramic, mineral materials and polymer materials

Cancel claims 14 and 15.

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